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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/724,276

11/28/2000

Howard Turner

SMX 3099.10
(98-14CIP3DIV)

7560

321

7590

10/04/2002

SENNIGER POWERS LEAVITT AND ROEDEL
ONE METROPOLITAN SQUARE
16TH FLOOR
ST LOUIS, MO 63102

EXAMINER

SODERQUIST, ARLEN

ART UNIT

PAPER NUMBER

1743

DATE MAILED: 10/04/2002

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/724,276

Applicant(s)

Turner et al.

Examiner

Arlen Soderquist

Art Unit

1743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 163-206 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 163-206 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 2, 4, 7, 10 6) ☐ Other:

1. The disclosure is objected to because of the following informalities: the current status of all nonprovisional parent applications referenced should be included.

Appropriate correction is required.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 171-175 are rejected under 35 U.S.C. 102(b) as being anticipated by Aldrich. In the pages of the Aldrich catalog, stirring equipment is described which anticipates the claimed stirring mechanism.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 163-170 and 176-206 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nelles in view of Lebl, Corkan, Salvat and Aldrich as explained above. In the paper Nelles presents the development of experimental reactors for heterogeneous solid-liquid processes. A laboratory research installation consists of a measuring vessel for the main reactant, a charging vessel (for feeding a definite amount of the main reactant), a reactor, 2 thermostats, and a magnetic, multipath valve for selecting one or the other of the thermostat liquids, which have

different temperatures. The reactor is a vertical cylindrical jacketed pressure vessel (volume 2 liters, 20 atmospheres), fitted with a samples mounted in the bottom and a stirring mechanism mounted in the top. The stirrer is a combination of an anchor (open toward the bottom) and a helix that wipes the wall. The stirrer rpm is 85-2100. Details of the reactor, stirring mechanism, and sampling device are presented in diagrams. Samples can be taken during the reaction under pressure. The apparatus is suitable for heterogeneous polymerization and precipitation reactions. Nelles does not teach a plurality of reactors, a magnetic drive for the stirring means or specifics of a multi-piece stirrer.

In the patent Lebl teaches apparatus and method for combinatorial chemistry synthesis. In a first embodiment, this invention includes an integrated robot apparatus for performing combinatorial chemical synthesis protocols and having interchangeable work-stations, robot arm tools, and reaction vessels and reaction vessel arrays. The work-stations and tools are specialized to perform tasks necessary for the synthesis in a plurality of the reaction vessels grouped in a plurality of the reaction vessel arrays. Preferably, these elements function interchangeably because they have standardized sizes and conformation. The work-stations and tools include those for fluid dispensing or aspirating from individual reaction vessels or from all the reaction vessels in an array simultaneously. The reaction vessels can include, alternatively, stackable, ball-sealed reaction vessels, microtitre-like reaction vessel arrays, arrays of independent reaction vessels, valve-sealed reaction vessels (figures 8-11 and the description thereof for the anticipating disclosure), septum-sealed reaction vessels, and syringe reaction vessels. In alternative embodiments, this invention includes these work-stations, tools, reaction vessels and reaction vessel arrays in various combinations or sub-combinations either for use in partially integrated robots or for manual or stand-alone use.

In the paper Corkan discusses an automation system with the ability to work relentlessly, precisely, strategically, and autonomously in pursuit of scientific goals. Some years' work has been aimed at developing the hardware and software architecture for an automated workstation. The workstation is designed for microscale experimentation in relatively clean domains of synthetic chemistry. The workstation is shown in figure 2 and includes robotic and a stirring

assembly for multiple samples. A schematic of the software system and how it is used to control the device is presented in figure 3. The paper also describes the approaches to performing experiments in parallel. Parallelism originates chiefly through simultaneous processing of samples at semi-autonomous hardware modules, at the user interface, and through the use of a scheduler. Experimental throughput can be increased by up to ten-fold by this approach.

In the abstract of the Salvat patent publication, a device for stirring a reactor contains a shaft which is connected to a drive by means of a magnetic clutch. Both clutch magnets are mounted against each other perpendicularly to the rotation axis (i.e., the magnet attached to the motor shaft is placed outside the reactor and the magnet attached to the stirrer is placed inside the reactor). The reactor vessel is completely tight.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide multiple Nelles reaction vessels as taught by Corkan and Lebl because of the ability to automate the process or the ability to increase the rate at which information on the synthetic processes are gathered as taught by Corkan and Lebl. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a drive mechanism as taught by Salvat or Aldrich and the stirring paddles taught by Aldrich in the Nelles reactor because of the ability to agitate the reactor contents without exposing worry of escape of the contents due to a failed seal and the ability to change the stirring paddles depending on the needs of the system being agitated. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a head construction as taught by Lebl for the Nelles reactor because of its ability to allow injection of materials into the reactor.

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 163-170 and 176-206 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 22-31 of U.S. Patent No. 6,306,658. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims are of a scope that totally encompasses the patented claims and one cannot practice the patented claim without practicing the instant claims.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additional art relates to parallel synthesis apparatus and methods.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arlen Soderquist whose telephone number is (703) 308-3989. The examiner's schedule is variable between the hours of about 5:30 AM to about 5:00 PM on Monday through Thursday and alternate Fridays.

For communication by fax to the organization where this application or proceeding is assigned, (703) 305-7719 may be used for official, unofficial or draft papers. When using this number a call to alert the examiner would be appreciated. Numbers for faxing official papers are 703-872-9310 (before finals), 703-872-9311 (after-final), 703-305-7718, 703-305-5408 and 703-305-5433. The above fax numbers will generally allow the papers to be forwarded to the examiner in a timely manner.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



October 1, 2002

ARLEN SODERQUIST
PRIMARY EXAMINER